



## COVID-19: CDC Museum Closed to the Public

Due to ongoing concerns about the novel coronavirus (COVID-19), the David J. Sencer CDC Museum is closed to the public and will remain closed as we continue to assess and monitor developments. All CDC Museum tours are canceled until further notice.

This decision is being made out of an abundance of caution and based upon the guidance of the CDC regarding social distancing and the elimination of large gatherings.

Please continue to check our website and social media accounts for additional updates.



Centers for Disease Control and Prevention  
CDC 24/7: Saving Lives, Protecting People™

# Teen Newsletter: September 2020 – Healthy Schools

The David J. Sencer CDC Museum (CDCM) Public Health Academy Teen Newsletter was created to introduce teens to public health topics. Each month will focus on a different public health topic that CDC studies. Newsletter sections: Introduction, CDC's Work, The Public Health Approach, Special Feature, Out of the CDC Museum Collection, and Activities.

## Introduction – Healthy Schools

School is back in session, but this year looks very different for a lot of students in grades K-12. Whether you are virtual or in person, school plays an important role in your life. Schools have direct contact with more than 95% of our nation's young people aged 5 to 17 years—that's you. Most students, depending on age, spend approximately 6 hours per day and up to 13 critical years of their social, psychological, physical, and intellectual development in school. Schools play an important role in promoting your health and safety by helping you establish lifelong health patterns.

Healthy students are better learners, and academic achievement bears a lifetime of benefits for health. Schools are an ideal setting to teach and provide you with opportunities to improve your dietary and physical activity behaviors and manage your chronic health conditions (i.e., asthma, diabetes, epilepsy, food allergies, poor oral health). When school health policies and practices are put in place, you can grow to be healthy and successful adults.

## CDC's Work – Healthy Schools

CDC Healthy Schools works with states, school systems, communities, and national partners to prevent chronic disease and promote your health and well-being. The [Whole School Whole Community Whole Child \(WSCC\) model](#) is our framework for addressing health in schools. The WSCC model is student-centered and emphasizes the role of the community in supporting the school and the importance of evidence-based policies and practices.

CDC Healthy Schools promotes:

- Healthier [nutrition](#) options and education.
- Comprehensive [physical activity](#) programs and [physical education](#).
- Improved processes and better training to help students manage [chronic conditions](#).
- Health education that instills life-long healthy habits and health literacy.
- Practices that improve [school health services](#) and links to clinical and community resources.

CDC Healthy Schools is committed to the goal of creating healthier schools where students are safe, engaged, supported, and challenged. For more information see the [CDC Healthy Schools Fact Sheet](#).



## Fast Facts

- Each day, 133,000 schools provide a setting for 57 million students to learn about health and healthy behaviors.
- The percentage of US children aged 6 to 11 who have obesity increased from 7% in 1976–1980 to nearly 18% in 2015–2016. The percentage of adolescents aged 12 to 19 with obesity increased from 5% to 21% during the same period.
- CDC develops effective tools and recommendations to help states create healthy school environments for children and adolescents.
- The Whole School, Whole Community, Whole Child model brings together health, public health, education, and school health sectors to improve health and learning.

In the United States:



1 IN 4

**ADOLESCENTS**  
has a chronic health condition.



18% OF

**CHILDREN**  
had obesity in 2015–2016.



**57 MILLION**  
students could be reached with health messages.

## The Public Health Approach – Healthy Schools

Public health problems are diverse and can include infectious diseases, chronic diseases, emergencies, injuries, environmental health problems, as well as other health threats. Regardless of the topic, we take the same systematic, science-based approach to a public health problem by following four general steps.

### 1. **Surveillance** (What is the problem?)

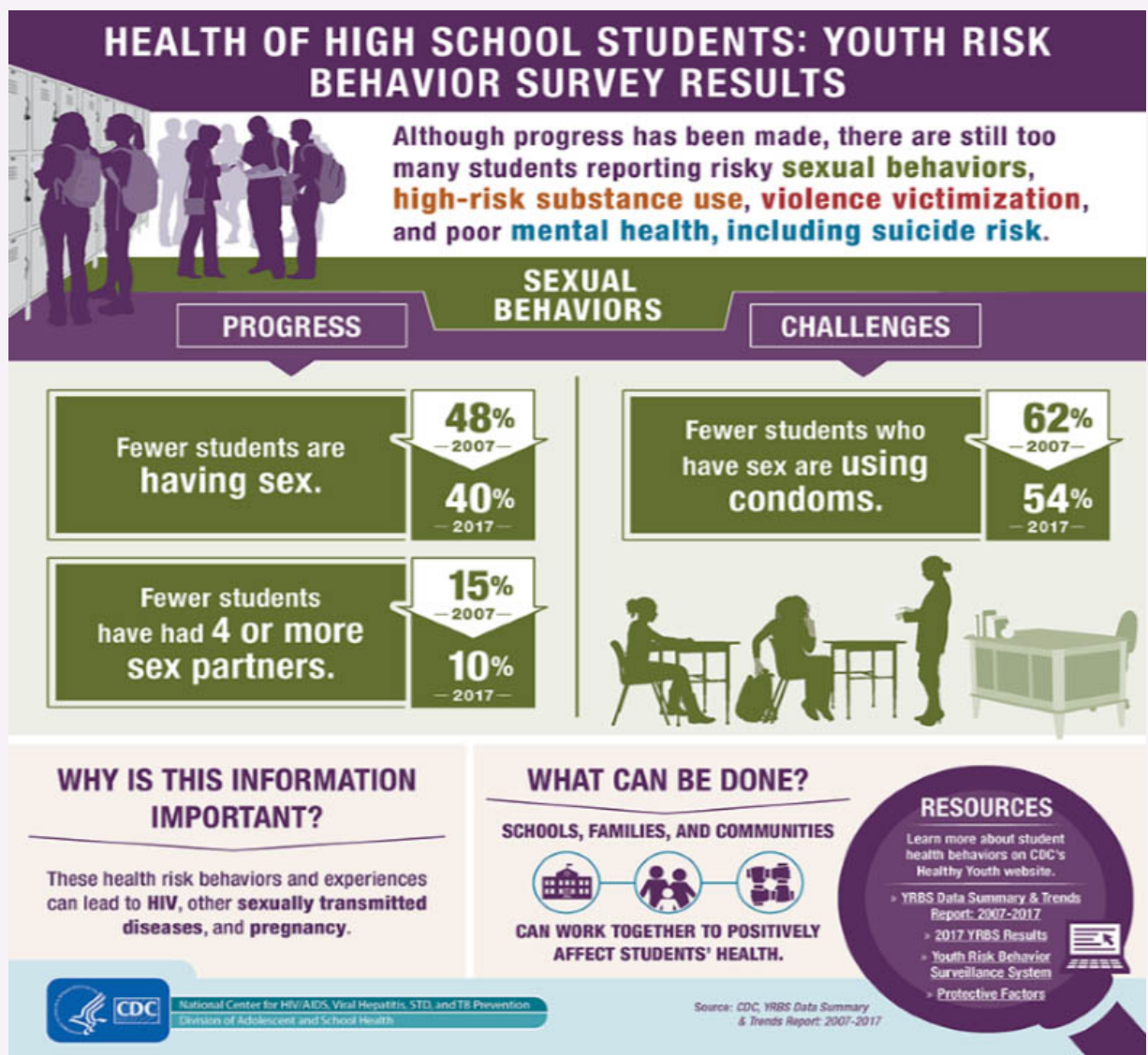
In public health, we identify the problem by using surveillance systems to monitor health events and behaviors occurring among a population. CDC Healthy Schools uses three surveillance systems administered by [CDC's Division of Adolescent and School Health](#) to monitor health behaviors, practices, and policies in schools:

- [School Health Profiles \(Profiles\)](#)
- [School Health Policies and Practices Study \(SHPPS\)](#)
- [Youth Risk Behavior Surveillance System \(YRBSS\)](#)

To better explain the other steps, let's focus on a topic presented in the YRBSS sexual behaviors infographic above—condom use. **Fewer students who have sex are using condoms.**

### 2. **Risk Factor Identification** (What is the cause?)

After we've identified the problem, the next question is, "What is the cause of the problem?" For example, are there factors that might make certain populations more susceptible to disease, such as something in the environment or certain behaviors that people are practicing? Why are more students who have sex not using condoms? According to the 2019 YRBS, prevalence of condom use was less common among non-Hispanic black and Hispanic students compared with non-Hispanic white students; this is a [health disparity](#). As public health



practitioners, we wonder, do these students have access to sexual and reproductive health education and clinical services?

### 3. **Intervention Evaluation** (What works?)

Once we've identified the risk factors related to the problem, we ask, "What intervention works to address the problem?" We look at what has worked in the past in addressing this same problem and if a proposed intervention makes sense with our affected population. Variations in condom use behavior by demographic characteristics were examined by the YRBS to support public health professionals in implementing quality sexual and reproductive health education and clinical services that prevent STDs/HIV and unintended pregnancy.

### 4. **Implementation** (How can we do it?)

In the last step, we ask, "How can we implement the intervention? Given the resources we have and what we know about the affected population, will this work?" CDC Healthy Schools uses the data collected through the three surveillance systems above to identify effective strategies, develop and evaluate programs, and develop guidelines and tools to improve school health policies, programs, and curricula. As you can see, using The Public Health Approach helps public health professionals identify populations needing targeted interventions.




This month we are featuring work by students who, just recently, completed the CDC Museum Public Health Academy 2020 Online Summer Course. This was a new course that was offered to the 615 students who applied to the CDC Museum Public Health Academy 2020 Disease Detective Camp. The course was created and offered to those students because the CDC Museum had to cancel the in-person Disease Detective Camp this summer due to the COVID-19 pandemic. Please be aware you are not able to click on any links in their work.

First, is a case study created by **Caroline Dannacher** from New York, New York that focuses on youth physical activity and physical education:

## Youth Physical Activity & Physical Education

**Caroline Dannacher**  
New York, NY



**Topic:** Physical Education and Activity

**Relevance:** I am a high school student

**Topic Explanation:** Physical Education classes are designed to give kids the ability and confidence to be physically active throughout their lives. ([CDC](#))

**Population Affected:** Children and teens

## Health Interventions:

[National Physical Education Standards](#) from Society of Health and Physical Educators (SHAPE) America

[Physical Activity Guidelines for Americans 2nd edition](#) from U.S. Department of Health and Human Services



Click to read importance of PE classes in the context of public health



## Legislation:

State Law Regulating Health and Physical Education (e.g. [New York Codes, Rules and Regulations, Title 8, Chapter II, Subchapter G, Health and Physical Education, Part 135](#))

Local Physical Education Requirements (e.g. [NYC Department of Education](#)), including duration and frequency of exercise

[State Legislative Policies on Physical Education and Physical Activity](#)

Summary of data extracted from the National Association of State Boards of Education (NASBE) State School Health Policy Database, on laws and policies in each U.S. state

## Data:

### Benefit of Physical Activity on Academic Performance

Students who are physically active tend to have better grades, school attendance, cognitive performance (e.g., memory), and classroom behaviors (e.g., on-task behavior).

Higher physical activity and physical fitness levels are associated with improved cognitive performance (e.g., concentration, memory) among students. ([CDC](#))

### Health Benefits Associated with Regular Physical Activity

#### Children and Adolescents

- Improved bone health (ages 3 through 17 years)
- Improved weight status (ages 3 through 17 years)
- Improved cardiorespiratory and muscular fitness (ages 6 through 17 years)
- Improved cardiometabolic health (ages 6 through 17 years)
- Improved cognition (ages 6 to 13 years)\*
- Reduced risk of depression (ages 6 to 13 years)



Click to see more

## Disparities:

U.S. survey data show marked disparities regarding physical activity by race/ethnicity, income, education, and gender among young people. ([Disparities in Physical Activity Among Adolescents and Young Adults](#))

Physical Education is not compulsory in certain countries

In countries, where labor regulations are weak, young people often have to work more, leaving less time for leisure activities, including exercise ([UN.org](#))

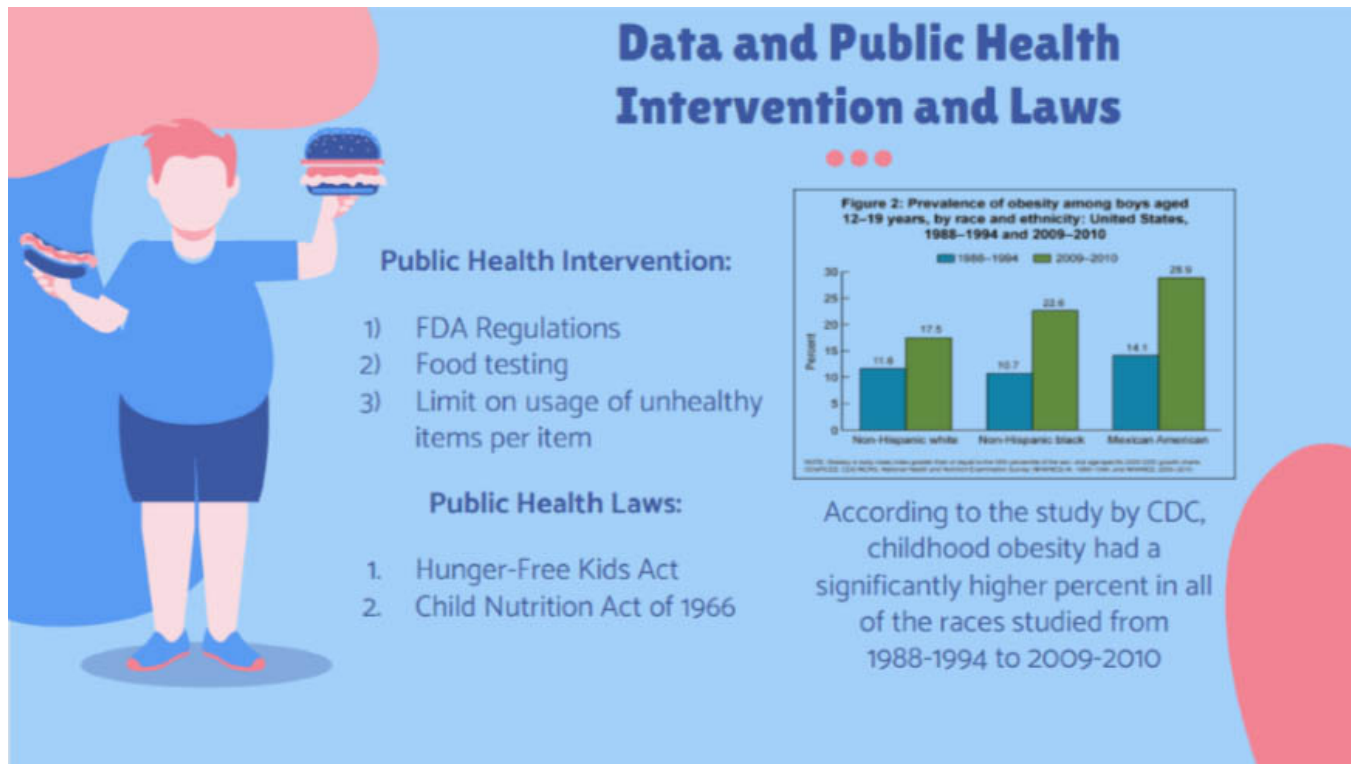


Check out the [CDC Healthy Schools](#) webpage on physical activity and physical education for more information on the topic.

Next, is a case study created by **Bhuvana Kode** from Cumming, Georgia that focuses on childhood obesity:







Check out the [CDC Healthy Schools webpage on childhood obesity](https://www.cdc.gov/healthykids/obesity/) for more information on the topic.

Next, is a case study created by **Rhea Khandelwal** from Princeton Junction, New Jersey that focuses on sleep deprivation:

# SLEEP DEPRIVATION

**Topic:** Sleep Deprivation in High School Students

**Relevance:** I am a high school student in a highly competitive district.

**Topic Explanation:** Sleep deprivation is where people do not get enough sleep at night.

**Population Affected:** Anyone can be affected, in this case it's high school students.

**Rhea Khandelwal**  
Princeton Junction, NJ



**DATA**

**MMWR: Zzzzz... SLEEPY KIDS**  
MOST STUDENTS NEED MORE SLEEP

AGE 6-12 YEARS  
NEED 9 to 12 HOURS

6 out of 10  
MIDDLE SCHOOLERS  
DON'T GET ENOUGH SLEEP

7 out of 10  
HIGH SCHOOLERS  
DON'T GET ENOUGH SLEEP

AGE 13-18 YEARS  
NEED 8 to 10 HOURS

The CDC states that 6 out of 10 middle schoolers and 7 out of 10 middle schoolers don't get enough sleep.

**Public Health Interventions:**

- 1) Start school at 9 in the morning.
- 2) Do not take naps
- 3) Give a time limit on homework depending on the amount of classes in a day

**Health Disparity:**

Certain races such as African Americans may have more problems with sleep deprivation, but due to socioeconomic status may not have the ability to pay for the medical problems that ensue.

**SLEEP DEPRIVATION EFFECTS**

Loss of sleep is a leading cause for memory loss, moodiness, and poor decision making. The prolonged sleep deficit in teenagers is also associated with depression, self-harm, and suicide. Sleep deprivation can also lead to poor academic performance, poor health, and poor decision making.

**John Hopkins Medicine** gives the statistics of the negative effects of sleep deprivation.

6,000%  
MORE CRAYINGS  
FOR EACH HOUR  
OF SLEEP DEPRIVATION

50%  
REDUCTION IN  
ACADEMIC PERFORMANCE

33%  
INCREASE IN  
RISK OF ACCIDENTS

3-5  
TIMES  
MORE LIKELY TO  
BE OVERWEIGHT

48%  
INCREASE IN  
RISK OF DEPRESSION

10X  
MORE LIKELY TO  
BE SUICIDAL

Check out the [CDC Healthy Schools webpage on sleep and health](https://www.cdc.gov/museum/education/newsletter/2020/sept/index.html) for more information on the topic.

Next, is a case study created by **Kelly Hong** from Bolingbrook, Illinois that focuses on drug abuse among teens:

Kelly Hong -- Bolingbrook, Illinois

**[ Drug Abuse Among Teens ]**

**What is Drug Abuse?** Drug abuse is the practice of misusing drugs (e.g. marijuana) for pleasure. Such misuse can lead to drug dependence, reckless driving, aggression/instability, academic failure, and even death.

**Relevance to Me** I am aware that many people in my high school use drugs. Illinois has also recently legalized marijuana specifically, which may influence higher marijuana use among teens.

**Who Is Affected?** While this case study focuses on teens, drug abuse can apply to anyone. Those with mental disorders or past trauma are more likely to use drugs.

### 2019 Monitoring the Future Survey Key Findings: Percent Reporting Use of Selected Substances

	8 <sup>th</sup> Grade	10 <sup>th</sup> Grade	12 <sup>th</sup> Grade		8 <sup>th</sup> Grade	10 <sup>th</sup> Grade	12 <sup>th</sup> Grade
<b>Vaping, Any</b>				<b>Tobacco w/ Nicotah</b>			
Post Year	20.1	35.7	40.5	Post Year	1.3	2.4	5.6
Post Month	12.2	25.5	30.9	Post Month	1.3	2.4	4.0
<b>Vaping, Nicotine</b>				<b>Flavored Little Cigars</b>			
Post Year	16.5	30.7	35.5	Post Year	2.2	3.3	7.7
Post Month	9.4	19.9	25.5	Post Month	2.2	3.3	7.7
<b>Vaping, Marijuana</b>				<b>Narcotics Other than Heroin</b>			
Post Year	7.8	18.4	25.8	Post Year			0.7
Post Month	5.9	13.6	19.0	Post Month			1.0
<b>Vaping, Just Flowering</b>				<b>Marijuana</b>			
Post Year	14.7	25.8	25.9	Post Year	11.8	18.8	35.7
Post Month	7.7	16.5	16.7	Post Month	6.6	13.4	22.3
<b>Cigarettes</b>				Daily	3.3	4.8	6.4
Post Month	2.8	3.4	5.7	<b>Alcohol</b>			
Daily	0.8	1.3	2.4	Post Month	7.9	18.4	29.8
1 Pack x/Day	0.1	0.5	0.9	Daily	0.2	0.6	1.7
				Binge	3.8	8.5	14.4

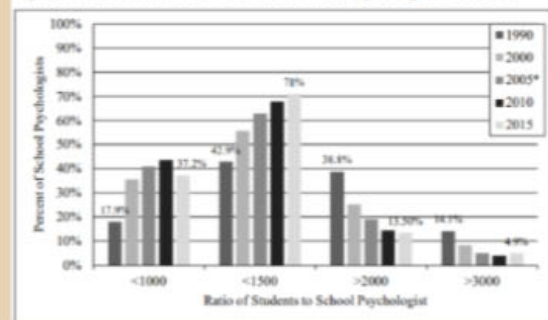
Change from 2018 to 2019

■ Significant Increase    ■ Significant Decrease

According to the National Institute on Drug Abuse (NIDA)'s 2019 survey, there were 35.7% of 10th graders who reported having vaped in the past year. Vaping and marijuana both have proven to be very popular drugs used among teens. The significant increase in their use is also alarming and further emphasizes why drug abuse must be stopped and prevented.

According to the National Bureau of Economic Research (NBER), mental illness and addictive substances are connected. Those previously diagnosed with mental health issues were responsible for the consumption of 69% of alcohol, 84% of cocaine, and 68% of cigarettes.

Figure 1. Trends in the Ratio of Students to School Psychologists: 1990–2015



Because many teens face mental health issues, schools have hired psychologists as a public health intervention against both mental illness and drug use. According to the National Association of School Psychologists (NASP) in 2013, the recommended ratio of students to psychologist is 500-700:1. Based on NASP survey results, the ratio is relatively higher, with the majority of school psychologists having 1000-1500 students in 2015; however, the consistent decrease in the ratio over the years shows hopeful promise.

## Other Information

### What Other PH Interventions are There?

People are constantly identifying new evidence-based interventions to discourage drug use. Also, when caught using drugs, treatment should be emphasized more than punishment; I believe this is something that needs to be implemented better.

**Any Disparities?** 1) In the U.S., each state has its own laws regarding drugs, which can impact drug use among teens. 2) Access to help (e.g. therapy) for drug abuse can vary. 3) A teen's personal conditions (family life, where he/she lives) can influence the likelihood of him/her using/abusing drugs.

### What Laws are There Against Drugs?

The *Controlled Substances Act* (1970) established a stricter policy towards the regulation of drugs. The act also created a classification system for drugs; the higher the potential for misuse, the more regulated the drug would be. The *Anti-Drug Abuse Acts* (1986, 1988) created minimum sentences for drug trafficking and other drug offenses.

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Check out the CDC's Adolescent and School Health webpage on Substance Use Among Youth for more information on the topic.



Out of the CDC Museum Collection



## Out of the CDC Museum Collection

This month we bring you Wellbee, the ‘health educator’s friend’. Wellbee is a cartoon character that exemplified “wellbeing.” With this month’s public health topic being healthy schools, Wellbee seems like a perfect fit.

More than 50 years ago, when CDC was still the [Communicable Disease Center](#), Public Information Officer George M. Stenhouse wanted to develop a public health symbol that could be used by all state and local public health agencies in the U.S.



In response, staff artist Harold M. Walker, who had previously worked as an animator in Hollywood on cartoons such as “Felix the Cat,” took to his drawing board to design Wellbee. Wellbee was first introduced to the public on March 11, 1962, in [The Atlanta Journal-Constitution](#) newspaper.

CDC designed a comprehensive marketing campaign that used newspapers, posters, leaflets, radio and television, as well as personal appearances at public health events. Wellbee’s first assignment was to help promote Sabin type II oral [polio](#) vaccine.

Wellbee’s future assignments included other health promotion campaigns, such as [diphtheria](#) and [tetanus](#) immunizations, [hand-washing](#), [physical fitness](#), [oral health promotion](#), and [injury prevention](#).

Mr. Stenhouse announced in a February 1963 memo to members of the Conference of State and Territorial Directors of Public Health Education that “Wellbee, the ‘health educator’s friend,’ had a busy year. He was particularly active in promoting community polio programs. He spoke Spanish in New Mexico; he came to life in costume in Hawaii and led a parade.”



## Newsletter Activities

### Scavenger Hunt

Want to learn more about healthy school and do a fun digital scavenger hunt?

Time: ~30 min to complete

See below for more details.

### Zoom

Want to learn more from a CDCer who works in the [Division of Adolescent and School Health \(DASH\)](#)?

[Click to watch](#) .

## Social Media Challenge #CDCTeenNewsletter

Mental health is an important part of overall health and well-being. Mental health includes our emotional, psychological, and social well-being. It affects how we think, feel, and act. It also helps determine how we handle stress, relate to others, and make healthy choices.

Mental health is important at every stage of life, from adolescence through adulthood.

Evaluate your school's mental health program.

[Click here for instructions and to submit a screenshot of your post](#) .

Use the hashtag #CDCTeenNewsletter

## CDCM PHA Teen Newsletter Scavenger Hunt September 2020

Step 1: Download the GooseChase iOS or Android app

Step 2: Choose to play as a guest

Step 3: Enter game code – **VJ6XWX**

Step 4: Enter password – CDC

Step 5: Enter your email as your player name (this is how we will contact you if you are the prize winner)

Step 6: Go to <https://www.cdc.gov/healthyschools/about.htm> to complete your missions.

### Tips for Winning:

- All answers are found on the website, see Step 6.
- Open-ended answers and photo submissions are evaluated for accuracy.
- Complete all the missions by 01/04/21 11pm EST, to be entered into a drawing for a prize.
- Make sure to make your player name is your email.

Have fun!

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